

Abstract of the Invention

A magnetic recording medium which includes a non-magnetic substrate having a front side and a backside, a longitudinal direction and a crossweb direction, with a particulate/binder magnetic layer formed over the front side of the substrate, wherein the magnetic medium has a cross web dimensional difference from the magnetic recording head used therewith of less than 900 microns/meter over a 35 degree temperature range, and over a 70% relative humidity range. In one embodiment, the substrate is a polymeric film which has been subjected to a biaxial tensilization process, thus having a lower coefficient of hygroscopic expansion and coefficient of thermal expansion than an otherwise identical film substrate which has not been biaxially tensilized. The magnetic recording medium formed using such a tensilized substrate has a Wyko Ra smoothness of less than about 10 nm, and a coefficient of thermal expansion from about 5 ppm/C to about 10 ppm/C.